Dr. Grogg Chemie AG
Gümligentalstrasse 83
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COVER SHEET FOR THE SAFETY DATA SHEET

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Item number: G017

Trade name: Diethyl ether pure

Supplier:
Dr. Grogg Chemie AG
Gümligentalstrasse 83
CH-3066 Stettlen-Deisswil
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Emergency number:
24-hour emergency number: 145
Help with poisoning. Tox Info Suisse provides free medical advice round the clock in cases of poisoning or suspected poisoning.

Tox Info Suisse
Freiestrasse 16
8032 Zürich
Tel. +41 (0) 44 251 51 51
www.toxinfo.ch

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SECTION 1: Identification of the product and of the company

· **1.1 Product identity**

· **Trade name: Diethyl ether (PG)**

· **Article number:** 527
· **CAS Number:**
60-29-7
· **EC number:**
200-467-2
· **Index number:**
603-022-00-4
· **1.2 Relevant uses of the product and uses advised against**
· **Product category**
PC0 Other
PC29 Pharmaceuticals
Solvents, degreasers, thinners, paint strippers.
· **Application of the product** Organic solvent

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Thommen-Furler AG
Industriestrasse 10
CH-3295 Rüti bei Büren (BE)
Tel. +41 32 352 08 00
info@thommen-furler.ch

· **Information department:** Product Management department
· **1.4 Emergency telephone number:**
Toxicological information Swiss center: emergency call 145 or +41 (0) 44 251 51 51

SECTION 2: Hazard(s) identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



Acute Tox. 4 H302 Harmful if swallowed.
STOT SE 3 H336 May cause drowsiness or dizziness.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labeled according to the CLP regulation.
· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

(Contd. on page 2)

Trade name: Diethyl ether (PG)

(Contd. of page 1)

· ***Hazard statements***
H224 Extremely flammable liquid and vapour.
H302 Harmful if swallowed.
H336 May cause drowsiness or dizziness.
· ***Precautionary statements***

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Additional information:***
EUH019 May form explosive peroxides.
EUH066 Repeated exposure may cause skin dryness or cracking.
· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

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SECTION 3: Composition/information on ingredients

· ***3.1 Chemical characterization: Substances***
· ***CAS No. Description***
CAS: 60-29-7 diethyl ether
· ***Identification number(s)***
· ***EC number:*** 200-467-2
· ***Index number:*** 603-022-00-4

SECTION 4: First-aid measures

· ***4.1 Description of first aid measures***
· ***General information:***
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· ***After inhalation:*** Supply fresh air; consult doctor in case of complaints.
· ***After skin contact:***
Generally the product does not irritate the skin.
Immediately wash with water and soap and rinse thoroughly.
· ***After eye contact:*** Rinse opened eye for several minutes under running water.
· ***After swallowing:*** Immediately call a doctor.
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Fire-fighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***For safety reasons unsuitable extinguishing agents:*** Water with full jet

(Contd. on page 3)

Trade name: Diethyl ether (PG)

(Contd. of page 2)

· ***5.3 Advice for firefighters***
· ***Protective equipment:*** No special measures required.

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
· ***6.2 Environmental precautions:***
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· ***6.3 Methods and material for containment and cleaning up:***
Absorb the liquid with an inert binder.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Keep away from heat and direct sunlight.
Open and handle receptacle with care.
· ***Information about protection against explosions and fires:***
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** Store in a cool location.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:***
Keep receptacle tightly sealed.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· ***Storage class:*** 3
· ***7.3 Specific end use(s)*** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Additional information about design of technical systems:*** No further data; see item 7.

· ***Components with limit values that require monitoring at the workplace:***	
CAS: 60-29-7 diethyl ether	
MAK (Switzerland)	Short-term value: 1200 mg/m³, 400 ppm Long-term value: 1200 mg/m³, 400 ppm

· ***Additional information:*** The lists that were valid during the creation were used as basis.

(Contd. on page 4)

(Contd. of page 3)

· ***8.2 Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
· ***Breathing equipment:*** Not required.
· ***Protection of hands:***


Protective gloves

· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:***


Tightly sealed goggles

· ***Body protection:*** Protective work clothing

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	Fluid
Color:	Colorless
· ***Odor:***	Sweetish
· ***Odor threshold:***	Not determined.
· ***pH-value:***	Not determined.
· ***Change in condition***	
Melting point/Melting range:	-116.4 °C
Boiling point/Boiling range:	34.7 °C
· ***Flash point:***	-45.2 °C
· ***Flammability (solid, gaseous):***	Not applicable.
· ***Ignition temperature:***	174.9 °C
· ***Decomposition temperature:***	Not determined.
· ***Auto igniting:***	Not determined.
· ***Danger of explosion:***	May form explosive peroxides.
· ***Explosion limits:***	
Lower:	1.7 Vol %

(Contd. on page 5)

(Contd. of page 4)

Upper:	39.2 Vol %
· **Vapor pressure at 25 °C:**	0.716 hPa
· **Density at 20 °C:**	0.715 g/cm³
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with Water at 20 °C:**	64.9 g/l
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic at 20 °C:	0.235 mPas
Kinematic:	Not determined.
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** Possible formation of peroxide.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:**
Harmful if swallowed.

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	855-2,352 mg/kg (rat)
Inhalative	LC50/4 h	73,000 mg/l (rat)

· **Primary irritant effect:**
· **on the skin:** Based on available data, the classification criteria are not met.
· **on the eye:** Based on available data, the classification criteria are not met.
· **Sensitization:** Based on available data, the classification criteria are not met.
· **Additional toxicological information:**
· **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - single exposure**
May cause drowsiness or dizziness.
· **Specific target organ toxicity - repeated exposure**
Based on available data, the classification criteria are not met.

(Contd. on page 6)

Trade name: Diethyl ether (PG)

(Contd. of page 5)

· ***Aspiration hazard*** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· ***12.1 Toxicity***

· ***Aquatic toxicity:***	
LC50/48 h	2,840 mg/l (leuciscus idus)
EC50/24 h	165 mg/l (daphnia magnia)

· ***12.2 Persistence and degradability*** Not biodegradable
· ***12.3 Bioaccumulative potential*** No further relevant information available.
· ***12.4 Mobility in soil*** No further relevant information available.
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.
· ***12.6 Other adverse effects*** No further relevant information available.

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SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation:***
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· ***Waste disposal key:*** 07 01 04

· ***Uncleaned packagings:***
· ***Recommendation:*** Disposal must be made according to official regulations.

SECTION 14: Transport information

· ***14.1 UN-Number***	
· ***ADR, IMDG, IATA***	UN1155
· ***14.2 UN proper shipping name***	
· ***DOT***	Diethyl ether
· ***ADR***	1155 DIETHYL ETHER (ETHYL ETHER)
· ***IMDG, IATA***	DIETHYL ETHER (ETHYL ETHER)
· ***14.3 Transport hazard class(es)***	
· ***ADR, IMDG, IATA***	
· ***Class***	3 Flammable liquids

(Contd. on page 7)

(Contd. of page 6)

· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	I
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-D
· **Stowage Category**	E
· **Stowage Code**	SW2 Clear of living quarters.
· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	0
· **Excepted quantities (EQ)**	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· **Transport category**	1
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	0
· **Excepted quantities (EQ)**	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· **UN "Model Regulation":**	UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Section 355 (extremely hazardous substances):** Substance is not listed.
· **Section 313 (Specific toxic chemical listings):** Substance is not listed.
· **Chemicals known to cause cancer:** Substance is not listed.
· **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
· **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
· **Chemicals known to cause developmental toxicity:** Substance is not listed.
· **EPA (Environmental Protection Agency)** Substance is not listed.
· **TLV (Threshold Limit Value)** Substance is not listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labeled according to the CLP regulation.
· **Hazard pictograms**



GHS02 GHS07

(Contd. on page 8)

(Contd. of page 7)

· ***Signal word*** Danger
· ***Hazard statements***
H224 Extremely flammable liquid and vapour.
H302 Harmful if swallowed.
H336 May cause drowsiness or dizziness.
· ***Precautionary statements***

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** Substance is not listed.
· ***Seveso category*** P5a FLAMMABLE LIQUIDS
· ***Qualifying quantity (tonnes) for the application of lower-tier requirements*** 10 t
· ***Qualifying quantity (tonnes) for the application of upper-tier requirements*** 50 t

· ***National regulations:***

· ***Other regulations, limitations and prohibitive regulations***
· ***Additionnal informations according ChemRRV*** None.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· ***Department issuing SDS:*** Product Management department
· ***Contact:*** Product Management
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
Flam. Liq. 1: Flammable liquids – Category 1
Acute Tox. 4: Acute toxicity – Category 4
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· **** Data compared to the previous version altered.***